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*Messrs. Editors of the American Naturalist*:—In answer to your question in regard to the above communication, I would say that while fully concurring with Dr. Higgins in his high estimation of Mr. Wales' objectives, I am of the opinion that he (Dr. Higgins) has either made an error in his measurement of amplification (210 diameters with the No. 1 or A eye-piece) or that the 4-10th objective is very much *underrated in magnifying power*. All of Mr. Wales' 4-10th objectives which I have seen have been as near or nearer 1-4ths than 4-10ths in magnifying power; and below I give a table of amplification of such 4-10th objectives as are at hand; also two 1-4ths for comparison :

MAKER.	ANGLE OF AP.	EYE-PIECES.		
		1.	2.	3.
4-10 J. Zentmayer, . . . .	75°	130	210	400
" Smith and Beck, . . . .	60°	135	220	415
" R. B. Tolles, . . . .	135°	125	205	390
" W. Wales, . . . .	110°	175	300	535
1-4 R. B. Tolles, . . . .	120°	200	325	615
" Smith and Beck, . . . .	75°	210	340	650

The measurements were made with a first-class stand and eye-pieces of Zentmayer, the image of a stage micrometer being thrown down by a Spencer's camera lucida, and measured at just ten inches from the eye; cover adjustment for 125th cover glass. It seems to me that there should be some uniform standard adopted by the different makers of objectives, so that the 1-4th of one maker may not be as high as the 1-6th of another maker; or a 4-10th of one be as high as a 1-4th of another; or, still worse, a 3-inch objective of one maker of *precisely the same power* as a 2-inch of another maker, which was just the case with two objectives which I had about one year since. If the objectives did not differ any more than the first three in the above table it would be an improvement. The amplification which Dr. Higgins gives to his 4-10ths is as high as the highest 1-4th in the above table. — EDWIN BICKNELL, *Salem*.

## ANTHROPOLOGY.

THE BONE CAVES OF GIBRALTER. — The four Genista Caves, Martin's Cave, St. Michael's Cave and some others, have yielded evidences of early man, in the form of osseous remains, associated with flint knives and flakes, stone axes, polished and chipped; worked bones, serving as skewers, arrowheads, needles and gouges; anklets or armlets of shell, hand-made pottery, querns, rubbing-stones and charcoal. With these were found remains of numerous animals,\* including *Rhinoceros etruscus*, *Rh. leptorhinus* § (extinct); *Equus*, *Sus priscus* (extinct); *Sus scrofa*, *Cervus ela-*

\* Those marked thus §, are abundant; and thus §§, very abundant. A single molar of *Elephas antiquus* was obtained many years since by the late Mr. James Smith, of Jordan Hill, in an old sea-beach (now demolished) at Europa Point, the southern extremity of the rock.

*phus*, var. *barbarus* §, *Cervus dama* §, *Bos* (a large form), and *Bos taurus* §; two forms of Ibex, *Capra Ægoceros* §§; and also the common goat, *Capra hircus*; *Lepus timidus*, *Lepus cuniculus* §§, *Mus rattus*. Of the carnivora were determined *Felis leopardus*, *Felis pardina*, *Felis serval*, *Hyæna brunnea*, *Canis vulpes*, *Ursus* sp.; also remains of the common dolphin, numerous genera and species of birds, a species of tortoise and numerous remains of fishes, of which the tunny is most prominent.

The remains are imbedded in red cave-earth and also in a black layer similar to that noticed in the caves of France and elsewhere. In many instances the organic remains have been carried down from one cavern to another at a lower level through long fissures, by the heavy autumnal floods which pour from the higher grounds down upon Windmill Hill plateau (where many of these ossiferous caves are situated), bringing with them the remains of the various animals which at an earlier period inhabited the thickly-wooded heights, now entirely destitute of trees and only covered at places by the little *Chamærops humilis*.

Many human and animal remains, attributable to modern periods, have been also met with; but the older human remains are distinguished by peculiarities in the thigh bones which closely resemble those met with in the Cro-Magnon Cave. — *Quarterly Journal of Science*.

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#### ANSWERS TO CORRESPONDENTS.

W. H. S., Hummelstown, Pa. — The "Canadian Naturalist" is published monthly at Quebec, \$2 a year gold. Address M. l'Abbé Provancher, Quebec, Canada.

C. J. S., St. Augustine, Fla. No. 1, *Pinguicula lutea*; 2, Nothing came with this number; 3, *Amianthium angustifolium*; 4, *Lupinus diffusus*; 5, *Pinguicula pumila*. See Chapman's Southern Flora. For naming, fair specimens should be sent, — not miserable and withered bits.

J. L. L., Boston. — Specimens of various species of sea-anemones with two mouths, each surrounded by its circle of tentacles, have often been observed and recorded in Europe. I have seen several instances of this kind in our native *Metridium marginatum*. It is, however, to be regarded as an abnormal condition, and appears in many cases to have been caused by some injury, which has been healed, leaving two disks instead of one. Spontaneous division occurs normally, however, in allied coral animals, and a disk-shaped sea-anemone is formed in the West Indies which naturally has two mouths (*Ricordea florida* Duch. and Mich.). — A. E. V.

W. H. S., Hummelstown, Pa. The shells sent are as follows, by your numbers: 1, *Helix monodon* Rackett (*Stenotrema*); 2, *Helix tridentata* Say (*Triodopsis*); 3, *Helix alternata* Say (*Anguispira*); 4, *Helix bucculenta* Gld. (*Mesodon*); 5, *Helix albolabris* Say (*Mesodon*); 6, 7, *Anculosa dissimilis* Say; 8, *Goniobasis Virginica* Say (*Melania*); 9, *Paludina decisa* Say (*Melantho*); 10, *Sphaerium sulcatum* Lam.; 11, *Planorbis bicarinatus* Say; 12, 13, *Margaritana undulata* Say; 14, *Unio complanatus* Sol.; 15, *Anodonta edentula* Say; 16, *Anodonta fluviatilis* Lea. — G. W. T., Jr.

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#### BOOKS RECEIVED.

- Quarterly Journal of Science*. London. April, 1870.  
*Nature*. London. March 24, 31. April 7, 14, 21, 28.  
*Scientific Opinion*. London. Nos. 73-77. April.  
*The Academy*. London. No. 8. May.  
*Science Gossip*. London. April and May.  
*American Entomologist and Botanist*. St. Louis. Vol. 2, No. 6. April, 1870.  
*The Entomologist's Monthly Magazine*. London (monthly). From December, 1868, to March, 1870, inclusive.  
*The Field*. London. April 9, 16, 23.  
*Harris on the Pig; Breeding, Rearing, Management and Improvement*. By Joseph Harris. Illustrated. 12mo, cloth. Orange Judd & Co. New York. 1870. \$1.50.  
*Sketches of Creation; a Popular View of Some of the Grand Conclusions of the Sciences in reference to the History of Matter and of Life*. By Alexander Winchell, LL.D., etc. With illustrations. 12mo, cloth, pp. 460. 1870. Harper & Brothers. New York.